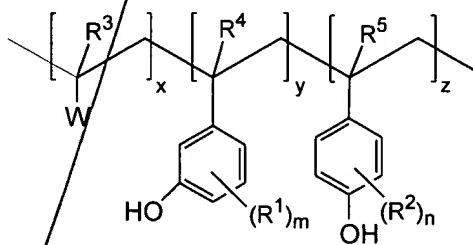


What is claimed:

Sub a1  
1. A photoresist composition comprising a photoactive component and a resin that comprises a polymer that comprises 1) an acid-labile group; 2) a meta-hydroxyphenyl group, and 3) a para-hydroxyphenyl group.

2. The photoresist of claim 1 wherein the polymer comprises pendant acrylate acid-labile groups.

Sub a2  
3. The photoresist of claim 1 wherein the polymer comprises a structure of Formula I:



wherein W comprises an acid-labile group;

R<sup>1</sup> and R<sup>2</sup> are each the same or different non-hydrogen substituents;

R<sup>3</sup>, R<sup>4</sup> and R<sup>5</sup> are each independently hydrogen or optionally substituted alkyl;

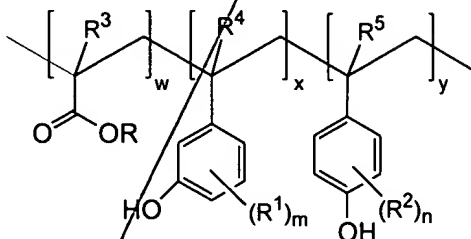
m and n are each independently 0 to 4; and

x, y and z are each greater than 0 and are mole percents of the respective units of the polymer.

4. The photoresist of claim 3 wherein W comprises an acrylate ester.

5. The photoresist of claim 3 wherein the sum of x, y and z is at least about 90 mole percent of total units of the polymer.

6. The photoresist of claim 1 wherein the polymer comprises a structure of the following Formula II:



II

wherein R is optionally substituted alkyl;

R<sup>1</sup> and R<sup>2</sup> are each the same or different non-hydrogen substituents;

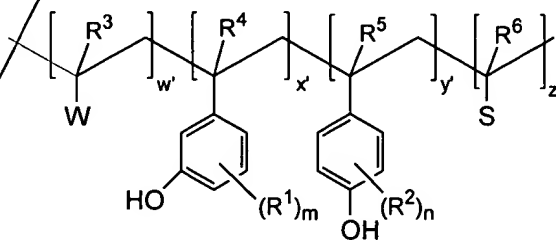
R<sup>3</sup>, R<sup>4</sup> and R<sup>5</sup> are each independently hydrogen or optionally substituted alkyl;

m and n are each independently 0 to 4; and

w, x and y are each greater than 0 and are mole percents of the respective units of the polymer.

7. The photoresist of claim 6 wherein the sum of w, x and y is at least about 90 mole percent of total units of the polymer.

8. The photoresist of claim 1 wherein the polymer comprises a structure represented by the following Formula III:



III

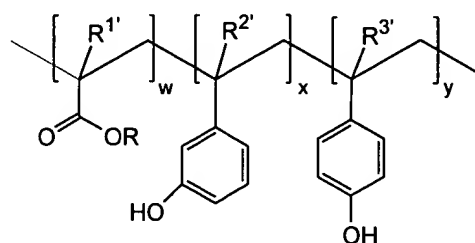
wherein W comprises an acid-labile group;

*act*

$R^1$  and  $R^2$  are each the same or different non-hydrogen substituents;  
 $R^3$ ,  $R^4$ ,  $R^5$  and  $R^6$  are each independently hydrogen or optionally substituted alkyl;  
 $m$  and  $n$  are each independently 0 to 4; and  
 $S$  is a group that does not contain acidic or acid-reactive moieties;  
 $w'$ ,  $x'$ ,  $y'$  and  $z'$  are each greater than 0 and are mole percents of the respective polymer units.

9. A photoresist of claim 8 wherein the sum of  $w'$ ,  $x'$ ,  $y'$  and  $z'$  is at least about 90 mole percent of total units of the polymer.

10. A photoresist of claim 1 wherein the polymer comprises a structure of the following Formula IV:



IV

wherein  $R$  is optionally substituted alkyl;

$R^1$ ,  $R^2$  and  $R^3$  are each independently hydrogen or methyl;

$w$ ,  $x$ , and  $y$  are each greater than 0 and are mole percents of the respective units of the polymer.

11. A photoresist of claim 10 wherein  $R$  is tert-butyl group, adamantyl, tetrahydropyranal, or norbornyl.

12. A photoresist of claim 10 wherein the sum of  $w$ ,  $x$ , and  $y$  is at least about 90 mole percent of total units of the polymer.

13. A method for forming a photoresist relief image, comprising:  
a) applying a layer of a photoresist composition of claim 1 on a substrate; and  
b) exposing and developing the photoresist layer on the substrate to yield a photoresist relief image.

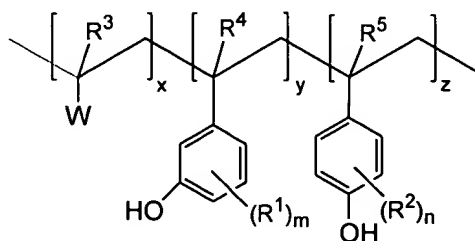
14. The method of claim 13 wherein the substrate is a microelectronic wafer or a flat panel display substrate.

15. An article of manufacture comprising a substrate having coated thereon a photoresist composition of claim 1.

16. An article of claim 15 wherein the substrate is a microelectronic wafer or a flat panel display substrate

17. A polymer that comprises 1) acid-labile groups; 2) meta-hydroxystyrene groups, and 3) para-hydroxyphenyl groups.

18. A polymer of claim 17 wherein the polymer comprises a structure represented by the following Formula I:



I

wherein W comprises an acid-labile group;

as el

$R^1$  and  $R^2$  are each the same or different non-hydrogen substituents;

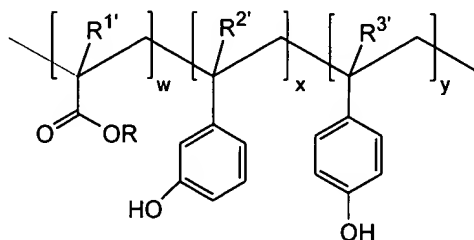
$R^3$ ,  $R^4$  and  $R^5$  are each independently hydrogen or optionally substituted alkyl;

m and n are each independently 0 to 4; and

x, y and z are each greater than 0 and are mole percents of the respective polymer units.

19. A polymer of claim 18 wherein W comprises an acrylate ester, and the sum of x, y and z is at least about 90 mole percent of total units of the polymer.

20. A polymer of claim 17 wherein the polymer comprises a structure represented by the following Formula IV:



IV

wherein R is optionally substituted alkyl;

$R^{1'}$ ,  $R^{2'}$  and  $R^{3'}$  are each independently hydrogen or methyl;

w, x, and y are each greater than 0 and are mole percents of the respective units of the polymer.

Add A6